

**Notice of Allowability**

Application No.

10/538,137

Applicant(s)

NAGAO ET AL.

Examiner

Art Unit

Barbara Summons

2817

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 9 June 2005 (Pre-amendment).
2. ☒ The allowed claim(s) is/are 1-15.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some\* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☒ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08),  
Paper No./Mail Date 6/9/05
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_.
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.

## REASONS FOR ALLOWANCE/COMMENTS

### *Drawings*

1. The drawings were received on 6/9/05 (pre-amendment). These drawings are approved.

### *Reasons for Allowance*

2. The following is an examiner's statement of reasons for allowance:

Regarding the prior art "X" reference (Yamada et al. WO 02/093549) cited on the International Search Report, the U.S. equivalents thereof being cited by the Examiner, this prior art and other art of record is not considered to show a piezoelectric thin film device wherein "an upper surface of the insulating layer is disposed lower than the lower surface of the lower electrode in the space for oscillation and positioned above a lower surface of the space for oscillation". That is, the upper surface of the insulating layer 53 of Yamada et al. (see e.g. U.S. 6,842,088 Figs. 8/20) while being disposed lower than the lower electrode in the space for oscillation 52, cannot be considered to be "positioned above a lower surface of the space for oscillation" since the upper surface of the insulating layer 53 is the lower surface of the oscillation space, so they are on the same plane. The Examiner agrees with the International Search Report that the prior art of record also does not disclose the recited method of making the device.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

**Conclusion**

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Yamada et al. U.S. 6,842,088 and U.S. 2002/0190814 are English language equivalent documents of the WO document cited as an "X" reference.

Suzuki et al. U.S. 4,642,508 discloses a bridge type piezoelectric thin film device (Figs. 3-8) and also discloses that the size of the air gap is frequency dependent and small based on "several times the vibration displacement width at the operation frequency of the resonator" (see col. 4, lines 12-14). Therefore, the higher frequency device, the smaller the air gap.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Barbara Summons whose telephone number is (571) 272-1771. The examiner can normally be reached on M-Th, M-Fr.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bob Pascal can be reached on (571) 271-1769. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

bs  
December 18, 2006


  
**BARBARA SUMMONS**  
**PRIMARY EXAMINER**

FIG. 1

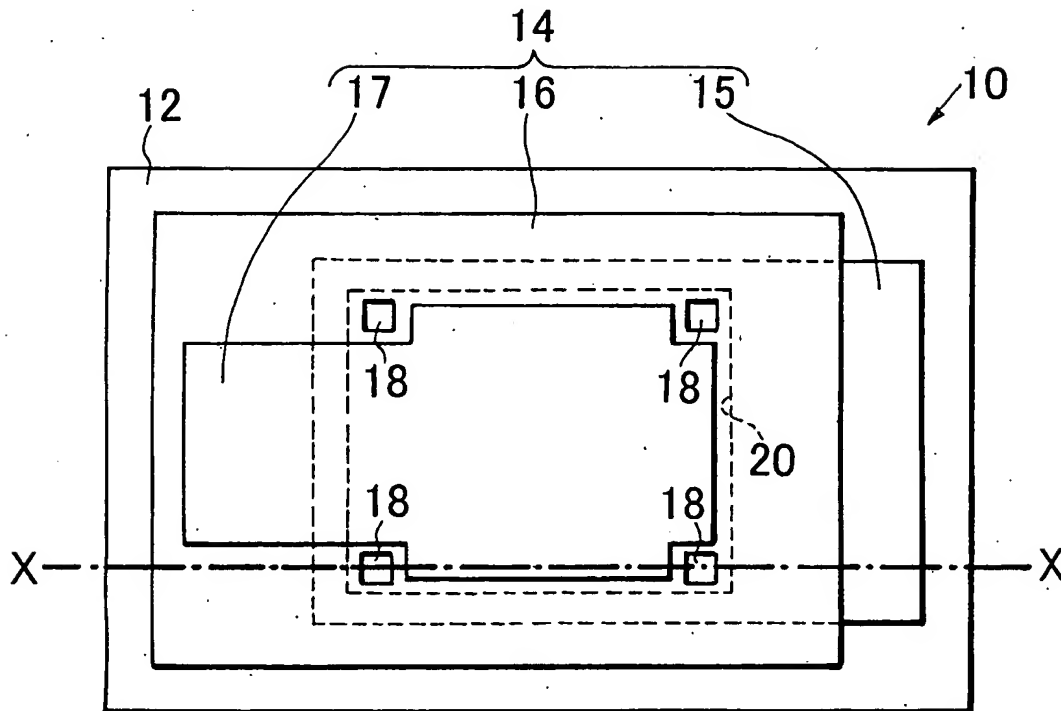


FIG. 2

